



Institut pro testování a certifikaci, a.s.
Divize CSI - Centrum stavebního inženýrství

Fire Technical Laboratory

**AUTHORIZED
BODY**

**NOTIFIED
BODY**

**CLASSIFICATION OF REACTION TO FIRE IN
ACCORDANCE WITH ČSN EN 13501-1:2019**

Applicant: A. Berger GmbH
Weyerhofstrasse 68
47803 Krefeld
Germany

Prepared by: Institut pro testování a certifikaci, a.s.
Divize CSI – Centrum stavebního
inženýrství
Pražská 16, 102 00 Praha 10
Czech Republic

Product name: 4484-0026, Lumina

**Classification
report No.:** PK-21-137

Issue number: 1/2

Date of issue: 13th August 2021

This classification report consists of 4 pages and may only be used or reproduced in its entirety.

1. DETAILS OF CLASSIFIED PRODUCT

Nature and end use application:

The product 4484-0026, *Lumina* is defined as a type of fabric without a closer end-use specification.

Description:

The product 4484-0026, *Lumina* is fully described in the test reports in support of the classification listed in clause 2.

2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

Test reports

Name of laboratory	Name of sponsor	Test report ref. no.	Test method
ITC a.s., Divize CSI, Fire technical laboratory	A. Berger GmbH	21/P395	ČSN EN ISO 11925-2
		21/P396	ČSN EN 13823

Measured values and test results:

Test method	Parameter	Number of test	Results	
			Continuous parameter mean (m)	Compliance parameters
ČSN EN ISO 11925-2 exposition = 30 s	$F_s \leq 150 \text{ mm}^{(1)}$	6	yes	yes (B - D)
	ignition of filter paper ⁽¹⁾	6	no	no (d0)
	$F_s \leq 150 \text{ mm}^{(2)}$	6	yes	yes (B - D)
	ignition of filter paper ⁽²⁾	6	no	no (d0)
ČSN EN 13823	$FIGRA_{0,2 \text{ MJ}} \text{ (W/s)}$	3	0	$\leq 120 \text{ (B)}$
	$LFS < \text{edge}$	3	yes	yes (B, C)
	$THR_{600 \text{ s}} \text{ (MJ)}$	3	0,5	$\leq 7,5 \text{ (B)}$
	$SMOGRA \text{ (m}^2/\text{s}^2\text{)}$	3	0	$\leq 30 \text{ (s1)}$
	$TSP_{600 \text{ s}} \text{ (m}^2\text{)}$	3	10,2	$\leq 50 \text{ (s1)}$
	flaming droplets / particles	3	no	no (d0)

⁽¹⁾: surface flame attack

⁽²⁾: edge flame attack

3. CLASSIFICATION AND DIRECT FIELD OF APPLICATION

Reference and direct field of application

This classification has been carried out in accordance with the clause 11.6, 11.9.2 and 11.10.1 of ČSN EN 13501-1:2019.

Classification

The product 4484-0026, *Lumina*, in relation to its reaction to fire behaviour is classified:

B

The additional classification in relation to smoke production is:

s1

The additional classification in relation to flaming droplets/particles is:

d0

The format of the reaction to fire classification for 4484-0026, *Lumina* is:

Fire behaviour		Smoke production			Flaming droplets	
B	-	s	1	,	d	0

Reaction to fire classification: B-s1, d0

Field of application:

This classification is valid for the following end use conditions:

- without substrate

4. LIMITATIONS

Restrictions

This classification report is valid, provided that the technical specifications of the product will not be changed.

Warning

This document does not represent type approval or certification of the product.

Prepared:

Jiří Socha



Reviewed:

Vít Slaboch
head of laboratory

Test Report

No. AJFS1904002799FF

Date: APR.22, 2019

Page 1 of 6

SHANGHAI UNISIGN INDUSTRIAL MATERIAL CO.,LTD.

ROOM 307,BUILDING 1#,NO.59 SHENNAN ROAD,MINHANG DISTRICT,SHANGHAI,CHINA

The following sample(s) was / were submitted and identified on behalf of the client. SGS is not responsible for the authenticity, integrity and results of the data and information and / or the validity of the conclusion. results apply to the sample as received.

Sample Description: SDB190

Color: WHITE

Composition: 100%P

Style/Item No.: SDB190

Test Requested:

To determine the flammability (building materials class B1) in accordance with DIN 4102-1 (May 1998) Fire behaviour of building materials and elements Part 1: Classification of building materials, Requirements and testing

Test Results: -- See attached sheet --

Classification: The tested sample **meets** class **B1** building materials requirements of DIN 4102-1 (May 1998).

Test Period:

Sample Receiving Date : APR.04, 2019

Test Performing Date : APR.04, 2019 TO APR.17, 2019

Signed for and on behalf of
SGS-CSTC Co., Ltd. Anji Branch



Allen Zou
Lab Manager



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No. 301, Sunlight Road, 2 Block, Sunlight Industry Zone, Anji County, Zhejiang Province, China 313300 t (86-572) 5018825 f (86-572) 5018829 www.sgs.com.cn
中国·浙江·安吉县阳光工业园二区阳光大道301号 邮编: 313300 t (86-572) 5018825 f (86-572) 5018829 e sgs.china@sgs.com

Test Report

No. AJFS1904002799FF

Date: APR.22, 2019

Page 2 of 6

I. Test conducted

This test was conducted as per DIN 4102-15:1990 DIN 4102-16:1998 and DIN 4102-1:1998 Clause 6.2, and Classification in according to DIN 4102-1 (May 1998) Clause 6.1-Class B1 materials.

II. Sample details

General description	One sample of fabric
Color	White
Density	196 g/m ²
Size of sample	1000mm×190mm & 190mm×90mm

Conditioning

Prior to testing, the sample was conditioned at least 14 days to constant mass at a temperature of 23 ± 2 °C, and a relative humidity of 50 ± 6 %.

III. Test results

1) "Brandschacht" Test according to DIN 4102-15 &16

Exposed surface: The front face

Results of "Brandschacht" Test (part 1)				
Line No.		Unit	Test assemblies No.	
			Lengthwise	Widthwise
1	Specimen fixings according to DIN 4102 part 15, table	/	/	/
2	Max. flame height above lower sample edge;	cm	46	43
3	Time	min:s	00:57	00: 43
	¹⁾ Melting/burning through		/	/
4	Time ¹⁾	min:s	00:05	00:05
	Back of specimen		/	/
5	Flaming/glowing, Time ¹⁾	min:s	00:07	00:08
6	Discolouring, Time ¹⁾	min:s	00:03	00:03
	Burning droplets		Yes	Yes
7	Begin 1)	min:s	00:09	00:08
	Amount		/	/
8	Specimen material falling off in separate droplets		/	/
9	Specimen material falling off continuously		/	/

To be continued...



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No. 301, Sunlight Road, 2 Block, Sunlight Industry Zone, Anji County, Zhejiang Province, China 313300 t (86-572) 5018825 f (86-572) 5018829 www.sgs.com.cn
 中国·浙江·安吉县阳光工业园二区阳光大道301号 邮编: 313300 t (86-572) 5018825 f (86-572) 5018829 e sgs.china@sgs.com

Test Report

No. AJFS1904002799FF

Date: APR.22, 2019

Page 3 of 6

Results of "Brandschacht" Test (part 2)				
Line No.	Unit	Test assemblies No.		
		Lengthwise	Widthwise	
10	Burning parts Begin 1)	No /	No /	min:s
11	Parts of sample falling off separately	/	/	
12	Parts of sample falling off continuously	/	/	
13	Duration of continued combustion on mesh base (max.)	No	No	min:s
14	Burner flame impairment by dripping/falling material Time	No /	No /	min:s
	Premature ending of test	/	/	
15	End of burning at specimen ¹⁾	/	/	min:s
16	Time when test terminated (if applicable) ¹⁾	/	/	min:s
17	Burning after end of test Duration	No /	No /	min:s
18	Number of specimens	/	/	
19	Front of specimen	/	/	
20	Back of specimen	/	/	
21	Height of flame	/	/	cm
22	Glowing after end of test Duration	No /	No /	min:s
23	Number of specimens	/	/	
24	Front of specimen	/	/	
25	Back of specimen	/	/	
26	Top half of specimen	/	/	
27	Bottom half of specimen	/	/	

To be continued...



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No. 301, Sunlight Road, 2 Block, Sunlight Industry Zone, Anji County, Zhejiang Province, China 313300 t (86-572) 5018825 f (86-572) 5018829 www.sgs.com.cn
 中国·浙江·安吉县阳光工业园二区阳光大道301号 邮编: 313300 t (86-572) 5018825 f (86-572) 5018829 e sgs.china@sgs.com

Test Report

No. AJFS1904002799FF

Date: APR.22, 2019

Page 4 of 6

Results of "Brandschacht" Test (part 3)				
Line No.		Unit	Test assemblies No.	
			Lengthwise	Widthwise
28	Residual length	cm	/	/
	Single results		59 58 60 61	
29	Average of the single results	cm	61 59 60 62	
			59.3	60.8
	Smoke temperature		/	/
30	Max. of average	°C	142.6	139.8
31	Time	min:s	06:50	06:41

Note: ¹⁾ time from start of testing

*Reduction in number of test (*DIN 4102 Part 16, clause 5.2*)

Class B1 materials:

If the residual length measured after the first test is 45cm or greater, further tests are not required.

2) Normal Flammability Test according to DIN 4102-1 Clause 6.2

Edge ignition

Fire application time: 15s

Parameter	Lengthwise					Crosswise				
	1	2	3	4	5	6	7	8	9	10
Whether or not flaming extinguished before reach the gauge mark(Yes/No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Whether or not flaming reach the measuring mark within 20 seconds (Yes/No)	No	No	No	No	No	No	No	No	No	No
Time for the flame tip to reach the gauge mark(s)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Afterflame time (s)	0	0	0	0	0	0	0	0	0	0
Max. flame height (cm)	3	3	2	3	3	3	4	3	3	4
Molten dripping(Yes/No)	No	No	No	No	No	No	No	No	No	No
Smoke developments (visual impression)	Slight					Slight				

Note:

NA---Not applicable

To be continued...



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No. 301, Sunlight Road, 2 Block, Sunlight Industry Zone, Anji County, Zhejiang Province, China 313300 t. (86-572) 5018825 f. (86-572) 5018829 www.sgs.com.cn
中国·浙江·安吉县阳光工业园二区阳光大道301号 邮编: 313300 t. (86-572) 5018825 f. (86-572) 5018829 e. sgs.china@sgs.com

Test Report

No. AJFS1904002799FF

Date: APR.22, 2019

Page 5 of 6

IV. DIN 4102-1:1998 Criteria for classification

1) All materials, except flooring, may be classed as **B1** materials if they meet the following requirements a) and b):

a) The test using the 'Brandschacht' apparatus described in DIN 4102-15 (cf. subclause 6.1.3.1) shall be deemed passed if

– The mean value for the residual length (portion of specimen that has not burned or charred; cf. subclause 9.1 of DIN 4102-16) of each specimen is at least 15 cm and no individual values are lower than 0 cm,

– The mean effluent temperature does not exceed 200 °C in any test,

– The requirement for the residual length of each specimen is met even where there is afterflame, afterglow, or smouldering.

b) Pass DIN 4102-1: 1998 sub-clause 6.2.3 Ignitability Test if

For each specimen, flaming doesn't reach the gage mark within 20s after flame application.

2) Materials may be classed as **B2** materials if they pass the ignitability test specified in DIN 4102-1: 1998 subclause 6.2.5.

For each specimen, flaming doesn't reach the gage mark (150mm marks) within 20s after flame application.

3) Combustible materials which cannot be classed as B1 or B2 materials shall be classed as **B3** materials.

STATEMENTS:

This declaration of conformity is only based on the result of this laboratory activity, the impact of the uncertainty of the results was not included.

This test report does not replace any mandatory certification of the product that may be required.

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire and smoke hazard of the product in use.

To be continued...



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No. 301, Sunlight Road, 2 Block, Sunlight Industry Zone, Anji County, Zhejiang Province, China 313300 t (86-572) 5018825 f (86-572) 5018829 www.sgs.com.cn
 中国·浙江·安吉县阳光工业园二区阳光大道301号 邮编: 313300 t (86-572) 5018825 f (86-572) 5018829 e sgs.china@sgs.com

Test Report

No. AJFS1904002799FF

Date: APR.22, 2019

Page 6 of 6

Photo Appendix:



SGS authenticate the photo on original report only

*** End of Report ***



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No. 301, Sunlight Road, 2 Block, Sunlight Industry Zone, Anji County, Zhejiang Province, China 313300 t (86-572) 5018825 f (86-572) 5018829 www.sgs.com.cn
中国·浙江·安吉县阳光工业园二区阳光大道301号 邮编: 313300 t (86-572) 5018825 f (86-572) 5018829 e sgs.china@sgs.com